

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:	Patrick STEVENS <i>et al.</i>	Confirmation No.:	3464
Application No.:	10/659,486	Examiner:	El Hadji Malick Sall
Filed:	February 12, 2003	Group Art Unit:	2457
Attorney Docket No.:	PD-202135		

For: **METHOD AND SYSTEM FOR PROVIDING ENHANCED
PERFORMANCE OF WEB BROWSING**

Commissioner for Patents
Alexandria, VA 22313-1450

APPEAL BRIEF

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated March 8, 2010.

I. REAL PARTY IN INTEREST

The real party in interest is HUGHES ELECTRONICS CORPORATION.

II. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any related appeals and interferences.

III. STATUS OF THE CLAIMS

Claims 1-36 are pending in this appeal. No claim is allowed. This appeal is therefore taken from the final rejection of claims 1-36 on September 8, 2009.

IV. STATUS OF AMENDMENTS

The amendment to claims 9 and 25 filed April 13, 2009 has been entered.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The claimed invention addresses problems associated with web browsing. In particular, in order to increase the efficiency of web browsing, a transparent parsing and pre-fetching service is provided. A browser application initiates a request for content from a web server hosting the content. A downstream proxy communicates with the web browser and, for example, inserts fields in a HTTP request header, designating that a parse and pre-fetch service be enabled. An upstream proxy, if present, intercepts the request, fetches the HTML from the web server based on the request, parses the retrieved HTML, and pre-fetches objects specified by the HTML from the web server. The downstream proxy operates transparently and independently with respect to the upstream proxy.

In one embodiment, when a request from a browser application for content from a web server is received, the request is modified to include information specifying support of a parse and pre-fetch service so as to permit handling of the modified request by the web server in the absence of an upstream proxy that is communicating with the web server. Additionally, the modified request may be forwarded to the web server, where the upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server. The content may then be selectively received from the upstream proxy and forwarded to the browser application.

Independent claim 1 recites:

1. A method for retrieving content over a communication network from a web server, the method comprising:

receiving a request from a browser application for the content in the web server (See, e.g.,

Specification ¶¶ [09], [10]; Fig. 2, browser application 103, web server 109);

modifying the request to include information specifying support of a parse and pre-fetch

service as to permit handling of the modified request by the web server in absence of

an upstream proxy that is communicating with the web server (See, e.g., Specification

¶¶ [10], [37]-[45]; Fig. 2, web server 109);

forwarding the modified request towards the web server, wherein the upstream proxy, if

present, intercepts the modified request and pre-fetches the content from the web

server (See, e.g., Specification ¶¶ [10], [45], [47]-[54]; Fig. 2, upstream proxy 203;

Fig. 3); and

selectively receiving the content from the upstream proxy over the communication

network and forwarding the content to the browser application (See, e.g., Specification ¶¶ [10],

[54]; Fig. 2, upstream proxy 203; Fig. 3, step 321).

Independent claim 10 recites:

10. A network apparatus for supporting retrieval of content over a communication network from a web server, the apparatus comprising:

an interface configured to receive a request from a browser application for the content in the web server (See, e.g., Specification ¶ [11]; Fig. 2, browser application 103, web server 109); and

a proxy being downstream with respect to the web server and configured to modify the request to include information specifying support of a parse and pre-fetch service as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server (See, e.g., Specification ¶¶ [11], [29]-[31], [37]-[45]; Fig. 1, downstream proxy 105; Fig. 2, downstream proxy 205), wherein the modified request is forwarded towards the web server, and the remote upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server, the content from the upstream proxy being received over the communication network and being forwarded to the browser application (See, e.g., Specification ¶¶ [11], [29], [30], [45], [47]-[54]; Fig. 1, upstream proxy 107; Fig. 2, upstream proxy 203; Fig. 3).

Independent claim 19 recites:

19. A method for retrieving content over a communication network from a web server, the method comprising:

intercepting a request initiated by a browser application for the content, the request being forwarded by a proxy downstream with respect to the web server, wherein the request includes information identifying the downstream proxy (See, e.g., Specification ¶¶ [12], [47], [48]; Fig. 1, downstream proxy 105; Fig. 2, downstream proxy 205, browser application 103, web server 109; Fig. 3, step 305);

pre-fetching the content from the web server based on the request (See, e.g., Specification ¶¶ [12], [48]-[52]; Fig. 3); and

forwarding the pre-fetched content to the downstream proxy over the communication network, the downstream proxy forwarding the content to the browser application (See, e.g., Specification ¶¶ [12], [45], [47]-[54]; Fig. 1, downstream proxy 105; Fig. 2, downstream proxy 205; Fig. 3).

Independent claim 26 recites:

26. A network apparatus for retrieving content over a communication network from a web server, the network apparatus comprising:

an interface configured to intercept a request initiated by a browser application for the content, the request being forwarded by a proxy downstream with respect to the web server, wherein the request includes information identifying the downstream proxy (See, e.g., Specification ¶¶ [13], [47], [48]; Fig. 1, downstream proxy 105; Fig. 2, downstream proxy 205, browser application 103, web server 109; Fig. 3, step 305); and

an upstream proxy configured to pre-fetch the content from the web server based on the request (See, e.g., Specification ¶¶ [13], [29], [30], [45], [47]-[54]; Fig. 1, upstream proxy 107; Fig. 2, upstream proxy 203; Fig. 3),

wherein the pre-fetched content is forwarded to the downstream proxy over the communication network, the downstream proxy forwarding the content to the browser application (See, e.g., Specification ¶¶ [13], [45], [47]-[54]; Fig. 1, downstream proxy 105; Fig. 2, downstream proxy 205; Fig. 3).

Independent claim 32 recites:

32. A system for supporting retrieval of content over a meshed communication network, the system comprising:

a first server configured to receive a request from a browser application for the content resident in the web server, the first server including a downstream proxy configured to modify the request to include information specifying support of a parse and pre-fetch service within an optional header field of the request as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server (See, e.g., Specification ¶¶ [14], [29]-[31], [37]-[45], [49]-optional request header; Fig. 1, downstream proxy 105; Fig. 2, browser application 103, web server 109, downstream proxy 205; Fig. 3); and

a second server configured as the upstream proxy to intercept the modified request and pre-fetch the content from the web server, the second server forwarding the pre-fetched content over the communication network to the first server (See, e.g., Specification ¶¶ [14], [29], [30], [45], [47]-[54]; Fig. 1, upstream proxy 107; Fig. 2, upstream proxy 203; Fig. 3).

Independent claim 36 recites:

36. A network device for retrieving content over a communication network from a web server, the device comprising:

means for receiving a request from a browser application for the content in the web server (See, e.g., Specification ¶ [15]; Fig. 2, browser application 103, web server 109);

means for modifying the request to include information specifying support of a parse and pre-fetch service as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server (See, e.g., Specification ¶¶ [15], [37]-[45]; Fig. 2, web server 109);

means for forwarding the modified request towards the web server, wherein the upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server (See, e.g., Specification ¶¶ [15], [45], [47]-[54]; Fig. 2, upstream proxy 203; Fig. 3); and

means for selectively receiving the content from the upstream proxy over the communication network and forwarding the content to the browser application (See, e.g., Specification ¶¶ [15], [54]; Fig. 2, upstream proxy 203; Fig. 3, step 321).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-7, 10-16, 18, 20-24, and 27-36 were rejected for obviousness under 35 U.S.C. § 103(a) based on *Dutta et al.* (US 7,000,189) in view of *Sharma* (US 2003/0125953).

Claims 8, 17, 24, and 31 were rejected for obviousness under 35 U.S.C. § 103(a) based on *Dutta et al.* (US 7,000,189) and *Sharma* (US 2003/0125953) in view of *Chatterjee et al.* (US 6,947,440).

Claims 9, 19, 25, and 26 were not included in any statement of rejection in the Final Office Action. However, based on comments in the Final Office Action, e.g., bottom of page 2, and the first full paragraph of page 6, Appellants presume that these claims were intended to be included in the rejection under 35 U.S.C. § 103(a) based on *Dutta et al.* and *Sharma*.

VII. ARGUMENT

A. CLAIMS 1-7, 10-16, 18, 20-24, AND 27-36 ARE NOT RENDERED OBVIOUS BY *DUTTA ET AL.* AND *SHARMA* BECAUSE NEITHER OF THE APPLIED REFERENCES DISCLOSES NOR SUGGESTS THE CLAIMED FEATURES OF A PARSE AND PRE-FETCH SERVICE.

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed. Cir. 1997); *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

The Examiner acknowledged, at page 3 of the Final Office Action, that *Dutta et al.* fails to disclose the claimed features of “modifying the request to include information specifying support of a **parse and pre-fetch service** as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server” and “forwarding the modified request towards the web server, wherein the upstream proxy, if present, intercepts the modified request and **pre-fetches the content** from the web server.” The Examiner relied on *Sharma* to provide for the deficiencies of *Dutta et al.*, specifically relying on paragraph [0031], Fig. 3, items 340 and 324 for retrieving content and parsing the content, and on paragraph [0049] for pre-fetching of content. At page 2 of the Advisory Action of February 1, 2010, the Examiner denies making this acknowledgement, but the Examiner clearly stated, at page 3 of the

Final Office Action “Dutta fails to teach explicitly a **parse and pre-fetch service**, and **pre-fetches the content** from the web server.”

Sharma does disclose the concepts of parsing and pre-fetching. However, Appellants’ contribution is to use these known techniques in a specific manner so as to retrieve web content with reduced response times by providing a transparent parsing and pre-fetching service. A downstream proxy communicates with a web browser and may insert fields into the HTTP request header to designate that the parse and pre-fetch service is enabled. Then, an upstream proxy, if present, intercepts the request, fetches the requested content from the web server, parses the retrieved content, and pre-fetches objects specified in the request from the web server. The downstream proxy operates independently and transparently with respect to the upstream proxy.

Thus, claim 1, for example, recites “**modifying the request** [for content] to include information specifying support of a parse and pre-fetch service as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server.” The Examiner pointed to col. 5, line 65 through col. 6, line 1, of *Dutta et al.* for such a disclosure. That portion of *Dutta et al.* recites:

Upon detecting a request from a talking browser, the web server may then **modify the content of the response** to exclude content not suitable for presentation to a talking browser. Web servers 104 may determine whether the client originating a particular request is a talking browser by retrieving user agent information from the user agent field of the received request.

However, the claim recites that the **request** for content is modified. *Dutta et al.*, on the other hand, modifies “the **content** of the response” (col. 5, lines 66-67) responsive to a detection that the request is from a talking browser. It is crucial to note that the portion of *Dutta et al.* relied on by the Examiner discloses only that the **content** of the response, and **not the request for**

content, is modified. Since *Dutta et al.* does not disclose modifying the request for content, even if the general teaching by *Sharma* of parsing and pre-fetch techniques is applied to the system of *Dutta et al.*, the combination still does not result in the claimed feature of “**modifying the request [for content] to include information specifying support of a parse and pre-fetch service** as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server.” At best, the combination would result in the modification of the **content of the response** to the request to include information specifying support of a parse and pre-fetch service. It would appear meaningless to modify the content of the response to include such information but, in any event, the instant claimed subject matter would not result.

The Examiner relied on an inherency argument, stating “request from a talking browser is inherently a modified request in that it is not a regular request” and that “this type of request is causing the web server to modify the content of the response to exclude content not suitable for presentation to a talking browser” (Final Office Action-page 8, and Advisory Action-page 2). Respectfully, the Examiner’s rationale in this regard is untenable.

Clearly, a request is not a modified request merely because it causes a modification of the content of a response to that request.

To establish inherency, the extrinsic evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) citing *Continental Can Co. v. Monsanto Co.*, 948 F.3d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991). Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of

circumstances is not sufficient. *Id.* At 1269, 20 USPQ2d at 1749 (*quoting In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981)). The Examiner has provided no basis in fact or in technical reasoning for the conclusion that a modified request necessarily flows from a modified content in a response stemming from that request or that a modified request is necessarily present when there is a modified response. Moreover, there are numerous scenarios in which responses may be modified without modifying the requests for these responses.

As to the Examiner's assertion that a request is inherently modified because it is not a "regular request," and that "this type of request is causing the web server to modify the content of the response to exclude content not suitable for presentation to a talking browser," this is, in essence, an argument that the modified request is the mechanism that is used to exclude content not suitable for presentation. This assertion is factually incorrect. *Dutta et al.* does not rely on a **modified request** for excluding content, but rather discloses that the proxy server is actually the entity that excludes content not suitable for presentation, as noted, for example, at col. 9, lines 25-32 of *Dutta et al.*

Accordingly, it is most definitely not inherent that a request from a talking browser results in a modified request, as claimed.

Since neither *Dutta et al.* nor *Sharma*, or the combination thereof, discloses or suggests **"modifying the request [for content] to include information specifying support of a parse and pre-fetch service,"** it follows that neither reference nor the combination of references can suggest **"forwarding the modified request** towards the web server, wherein the upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server." It is not disputed that *Dutta et al.* discloses, at col. 9, lines 21-22, that a proxy server forwards the request to web browsers, but what is forwarded is the original request for content

and not a **modified** request that includes information specifying support of a parse and pre-fetch service. Merely because *Sharma* discloses a known techniques of parsing and pre-fetching is no reason, within the meaning of 35 U.S.C. § 103, to have modified the content request of *Dutta et al.* to include information within that request specifying support of a parse and pre-fetch service.

In *Sharma*, the retrieved content is parsed (paragraph [0031]) and requested content is pre-fetched (paragraph [0049]), but there is no evidence that the parsing and pre-fetching are performed as a result of modifying the original request for content to include information specifying support of a parse and pre-fetch service. Rather than resulting from a modified request, as claimed, the pre-fetching in *Sharma* is performed by converting the content of a retrieved page into a document file having a format consistent with that of the voice browser. Thus, the pre-fetching is performed as a result of determining the type of browser (e.g., voice browser) and then converting the content into a consistent format. There is no suggestion in *Sharma* that the pre-fetching is performed as a result of **modifying the request for content to include information specifying support of a parse and pre-fetch service**. Therefore, there would have been nothing to lead the artisan to modify the request for content in *Dutta et al.* to include information specifying support of a parse and pre-fetch service.

Accordingly, no *prima facie* case of obviousness has been established with regard to independent claim 1. Therefore, the rejection of claims 1-9 under 35 U.S.C. § 103(a) is neither factually nor legally viable; hence, reversal of this rejection by the Honorable Board is respectfully solicited.

Independent claims 10, 32, and 36 contain features similar to those of claim 1. Independent claims 19 and 26 each recite “wherein the request includes information identifying

the downstream proxy” and “pre-fetching the content from the web server based on the request” (claim 19) or “pre-fetch the content from the web server based on the request” (claim 26).

For the reasons above, neither *Dutta et al.* nor *Sharma* discloses **pre-fetching** the content “**based on the request.**” Moreover, as recited in claims 19 and 26, the request includes information “identifying the downstream proxy.” The Examiner’s rationale does not even address this feature of “identifying the downstream proxy.”

The Examiner asserted, with regard to the observation that the Examiner’s rationale does not even address this feature of “identifying the downstream proxy,” that the abstract of *Dutta et al.* discloses this feature in the providing and transferring of information to the client device by the server in response to the client request (Final Office Action-page 10). However, there is no link between the cited passage of the abstract of *Dutta et al.* and the feature of “identifying the downstream proxy.” There is not even a mention of a “proxy,” let alone, a “downstream proxy.” *Dutta et al.* merely discloses an interaction between the client device and the server and providing or transferring information to the client device in response to the client request. While *Dutta et al.* may disclose a **downstream transfer** of information from a server to a client, there is no disclosure of “identifying a downstream **proxy**,” as claimed. The simple transfer of information downstream from a server to a client is not tantamount to, nor does it correspond to, “**identifying a downstream proxy.**” The client in *Dutta et al.* is not a proxy. At page 2 of the Advisory Action, the Examiner asserted that the abstract of *Dutta et al.* discloses a “proxy server intermediary between the browser and the web server.” The abstract discloses no such thing. While the abstract mentions a “server” for providing information to the client, there is no mention or teaching of a “**proxy server**,” as claimed. Also, at page 2 of the Advisory Action, the Examiner asserted “In figure 8, Dutta discloses proxy server 182, which Examiner construes as

'the downstream proxy'." Claim 19, for example, recites "intercepting a request initiated by a browser application for the content, the request being forwarded by a proxy downstream with respect to the web server, **wherein the request includes information identifying the downstream proxy.**" Thus, to the extent the proxy server 182 of *Dutta et al.* may be construed to be a "downstream proxy," an assumption with which Appellants do not necessarily agree, it cannot be a "downstream proxy," as claimed, because the proxy server 182 of *Dutta et al.* is not identified by any information in the request for content, as claimed.

Accordingly, no *prima facie* case of obviousness has been established with regard to the subject matter of independent claims 19 and 26.

Thus, for the reasons above, the rejection of claims 10-16 and 18-36 under 35 U.S.C. §103(a) is neither factually nor legally viable; hence, reversal of this rejection by the Honorable Board is respectfully solicited.

B. CLAIMS 8, 17, 24, AND 31 ARE NOT RENDERED OBVIOUS BY *DUTTA ET AL.* AND *SHARMA* IN VIEW OF *CHATTERJEE ET AL.* BECAUSE *CHATTERJEE ET AL.* DOES NOT CURE THE DEFICIENCIES OF THE OTHER TWO REFERENCES.

Chatterjee et al., applied against dependent claims 8, 17, 24, and 31 for an alleged teaching of a communication network including a Very Small Aperture Terminal (VSAT) satellite network and an upstream proxy residing in a VSAT in communication with a web server, does not cure the deficiencies of the primary references. Accordingly, no *prima facie* case of obviousness has been established with regard to the subject matter of claims 8, 17, 24, and 31.

Therefore, the rejection of claims 8, 17, 24, and 31 under 35 U.S.C. § 103(a) is neither factually nor legally viable; hence, reversal of this rejection by the Honorable Board is respectfully solicited.

VIII. CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, Appellants request the Honorable Board to reverse each of the Examiner's rejections.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

DITTHAVONG MORI & STEINER, P.C.

April 28, 2010
Date

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IX. CLAIMS APPENDIX

1. A method for retrieving content over a communication network from a web server, the method comprising:

receiving a request from a browser application for the content in the web server;
modifying the request to include information specifying support of a parse and pre-fetch service as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server;
forwarding the modified request towards the web server, wherein the upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server; and
selectively receiving the content from the upstream proxy over the communication network and forwarding the content to the browser application.

2. A method according to claim 1, wherein the upstream proxy in the modifying step retrieves an initial content from the web server, and parses the retrieved initial content, the pre-fetched content being based on the parsed initial content.

3. A method according to claim 1, wherein the request in the modifying step conforms with a Hypertext Transfer Protocol (HTTP), the method further comprising:

inserting the treatment information in an optional field of the HTTP.

4. A method according to claim 1, wherein the step of modifying the request is transparent to the browser application.

5. A method according to claim 1, further comprising:

receiving another request from another browser application; and

forwarding another modified request based on the other request to another upstream proxy,

wherein said receiving and forwarding steps are concurrently executed with the steps of receiving the request and modifying the request.

6. A method according to claim 1, further comprising:

communicating with a switching module to receive the request, wherein the switching module including Open Systems Interconnection (OSI) Layer 4 functionality to redirect the request from a network interface.

7. A method according to claim 1, wherein the content conforms with a markup language that includes Hypertext Markup Language (HTML).

8. A method according to claim 1, wherein the communication network includes a Very Small Aperture Terminal (VSAT) satellite network, and the upstream proxy in the modifying step resides in an VSAT in communication with the web server.

9. A computer-readable storage medium bearing instructions for retrieving content over a communication network from a web server, said instruction, being arranged, upon execution, to cause one or more processors to perform the method of claim 1.

10. A network apparatus for supporting retrieval of content over a communication network from a web server, the apparatus comprising:

an interface configured to receive a request from a browser application for the content in the web server; and

a proxy being downstream with respect to the web server and configured to modify the request to include information specifying support of a parse and pre-fetch service as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server,

wherein the modified request is forwarded towards the web server, and the remote upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server, the content from the upstream proxy being received over the communication network and being forwarded to the browser application.

11. A network apparatus according to claim 10, wherein the upstream proxy retrieves an initial content from the web server, and parses the retrieved initial content, the pre-fetched content being based on the parsed initial content.

12. A network apparatus according to claim 10, wherein the request conforms with a Hypertext Transfer Protocol (HTTP), the downstream proxy inserting the treatment information in an optional field of the HTTP.

13. A network apparatus according to claim 10, wherein the request is transparent to the browser application.

14. A network apparatus according to claim 10, wherein the proxy concurrently communicates with a plurality of upstream proxies including the remote upstream proxy.

15. A network apparatus according to claim 10, further comprising:

a switching module coupled to the interface, the switching module including Open Systems Interconnection (OSI) Layer 4 functionality to redirect the request from the interface to the downstream proxy.

16. A network apparatus according to claim 10, wherein the content conforms with a markup language that includes Hypertext Markup Language (HTML).

17. A network apparatus according to claim 10, wherein the communication network includes a Very Small Aperture Terminal (VSAT) satellite network, and the upstream proxy resides in an VSAT in communication with the web server.

18. A network apparatus according to claim 10, further comprising:

a local upstream proxy configured to support pre-fetching of content from another web server local to the network apparatus.

19. A method for retrieving content over a communication network from a web server, the method comprising:

intercepting a request initiated by a browser application for the content, the request being forwarded by a proxy downstream with respect to the web server, wherein the request includes information identifying the downstream proxy;
pre-fetching the content from the web server based on the request; and
forwarding the pre-fetched content to the downstream proxy over the communication network, the downstream proxy forwarding the content to the browser application.

20. A method according to claim 19, further comprising:

retrieving an initial content from the web server; and

parsing the retrieved initial content,

wherein the pre-fetched content being is on the parsed initial content.

21. A method according to claim 19, wherein the request in the intercepting step conforms with a Hypertext Transfer Protocol (HTTP), and the treatment information resides in an optional field of the HTTP.

22. A method according to claim 19, wherein the step of intercepting the request is transparent to the browser application.

23. A method according to claim 19, wherein the content conforms with a markup language that includes Hypertext Markup Language (HTML).

24. A method according to claim 19, wherein the communication network includes a Very Small Aperture Terminal (VSAT) satellite network, and the upstream proxy in the modifying step resides in an VSAT in communication with the web server.

25. A computer-readable storage medium bearing instructions for retrieving content over a communication network from a web server, said instruction, being arranged, upon execution, to cause one or more processors to perform the method of claim 19.

26. A network apparatus for retrieving content over a communication network from a web server, the network apparatus comprising:

an interface configured to intercept a request initiated by a browser application for the content, the request being forwarded by a proxy downstream with respect to the web server, wherein the request includes information identifying the downstream proxy;
and

an upstream proxy configured to pre-fetch the content from the web server based on the request,

wherein the pre-fetched content is forwarded to the downstream proxy over the communication network, the downstream proxy forwarding the content to the browser application.

27. A network apparatus according to claim 26, wherein the upstream proxy retrieves an initial content from the web server, and parses the retrieved initial content, the pre-fetched content being based on the parsed initial content.

28. A network apparatus according to claim 26, wherein the request conforms with a Hypertext Transfer Protocol (HTTP), and the treatment information resides in an optional field of the HTTP.

29. A network apparatus according to claim 26, wherein the parsing of the request and pre-fetching of the content is transparent to the browser application.

30. A network apparatus according to claim 26, wherein the content conforms with a markup language that includes Hypertext Markup Language (HTML).

31. A network apparatus according to claim 26, wherein the communication network includes a Very Small Aperture Terminal (VSAT) satellite network.

32. A system for supporting retrieval of content over a meshed communication network, the system comprising:

a first server configured to receive a request from a browser application for the content resident in the web server, the first server including a downstream proxy configured to

modify the request to include information specifying support of a parse and pre-fetch service within an optional header field of the request as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server; and

a second server configured as the upstream proxy to intercept the modified request and pre-fetch the content from the web server, the second server forwarding the pre-fetched content over the communication network to the first server.

33. A system according to claim 32, wherein the upstream proxy retrieves an initial content from the web server, and parses the retrieved initial content, the pre-fetched content being based on the parsed initial content.

34. A system according to claim 32, further comprising:

a plurality of upstream proxies in simultaneous communication with the downstream proxy of the first server for supporting parsing and pre-fetching of content from a respective plurality of web servers.

35. A system according to claim 32, wherein the first server includes a switching module having Open Systems Interconnection (OSI) Layer 4 functionality to redirect the request from a network interface to the downstream proxy.

36. A network device for retrieving content over a communication network from a web server, the device comprising:

means for receiving a request from a browser application for the content in the web server;

means for modifying the request to include information specifying support of a parse and pre-fetch service as to permit handling of the modified request by the web server in absence of an upstream proxy that is communicating with the web server;

means for forwarding the modified request towards the web server, wherein the upstream proxy, if present, intercepts the modified request and pre-fetches the content from the web server; and

means for selectively receiving the content from the upstream proxy over the communication network and forwarding the content to the browser application.

X. EVIDENCE APPENDIX

Appellants are unaware of any evidence that is required to be submitted in the present Evidence Appendix.

XI. RELATED PROCEEDINGS APPENDIX

Appellants are unaware of any related proceedings that are required to be submitted in the present Related Proceedings Appendix.